## **AMENDMENTS TO THE CLAIMS**

The listing of claims below replace all prior versions, and listings, of claims:

1	1.	(Currently Amended) A method of determining performance of a	
2	communications system, comprising:		
3		storing representations of plural components of the communications	
4	system, the c	omponents including a first packet-based network and at least one network	
5	device;		
6		assigning one or more performance parameters for each of the	
7	components,	the performance parameters comprising at least a first performance	
8	parameter and a second performance parameter; and		
9		combining the first performance parameters of respective components to	
10	derive overall first performance parameters;		
11		combining the second performance parameters of respective components	
12	to derive an overall second performance parameter; and		
13		deriving a quality indication of the communications system based at least	
14	on the overal	I first and second performance parameters of the components.	
1	2.	(Currently Amended) The method of claim 1, wherein the components	
2	include a second packet-based network, the method further comprising assigning one or		
3	more performance parameters for the second packet-based network.		
1	3.	(Currently Amended) The method of claim 1, wherein assigning the one or	
2	more performance parameters includes assigning a packet delay parameter.		
1	4.	(Currently Amended) The method of claim 1, wherein assigning the one or	
2	more perform	nance parameters includes assigning a packet loss parameter.	
1	5.	(Currently Amended) The method of claim 1, wherein assigning the one or	
2	more performance parameters includes assigning a packet jitter parameter.		

- 6. (Original) The method of claim 1, wherein storing the representations includes storing models of the plural components, the models capable of being linked to create a representation of the communications system.
- 7. (Original) The method of claim 6, further comprising providing a graphical user interface in which the models may be manipulated to create the representation of the communications system.
- 8. (Original) The method of claim 1, wherein deriving the quality indication includes calculating an E-model quality rating value.
- 9. (Original) The method of claim 1, further comprising combining the representations of the plural components to create the communications system.
- 1 10. (Currently Amended) An apparatus for determining performance of a communications system, comprising:
- a storage device containing representations of plural components of the communications system, the plural components including a packet-based network and at least one network device, each of the components being assigned one or more
- 6 performance parameters; and
- 7 a controller to calculate a predicted quality of the communications system
- 8 based on the one or more performance parameters, wherein the predicted quality
- 9 comprises a value that is representative of a subjective perceived quality of
- 10 communications in the communications system by a user.
- 1 11. (Original) The apparatus of claim 10, wherein the one or more performance parameters include a packet delay.
- 1 12. (Original) The apparatus of claim 11, wherein the packet delay of each network component is treated as an independent variable.

- 1 13. (Original) The apparatus of claim 12, wherein the controller calculates an overall packet delay of the communications system by summing the packet delays of the plural components.
- 1 14. (Original) The apparatus of claim 10, wherein a first performance
  2 parameter associated with each network component is treated as an independent variable.
- 1 15. (Original) The apparatus of claim 14, wherein a value of the overall first performance parameter is derived by combining the first performance parameters of the plural components.
- 1 16. (Original) The apparatus of claim 10, wherein the representation of the packet-based network includes a representation of a collection of links and routers.
- 1 17. (Original) The apparatus of claim 10, wherein the representation of the packet-based network includes a representation of an Internet Protocol network.
- 1 18. (Original) The apparatus of claim 10, wherein the packet-based network 2 includes a public network, and wherein the storage device further contains a 3 representation of a local network.
- 1 19. (Original) The apparatus of claim 10, wherein the storage device further 2 contains a representation of a circuit-switched device.
- 1 20. (Currently Amended) An article including one or more machine-readable 2 storage media containing instructions for modeling performance of a communications 3 system, the instructions when executed causing a controller to: 4 store models of plural components of the communications system, the

store models of plural components of the communications system, the
plural components including a packet-based network and at least one network device, the
stored models containing at least first performance parameters and second performance
parameters associated with respective components;

8		combine the models to represent the communications system; and	
9		combine the first performance parameters of respective components to	
10	derive an overall first performance parameter;		
11		combine the second performance parameters of respective components to	
12	derive an overall second performance parameter; and		
13		determine a quality level of the communications system using at least the	
14	stored models overall first performance parameter and overall second performance		
15	parameter.		
1	21	(Out aired). The audich of alaire 20 subarrain the instructions when executed	
1	21.	(Original) The article of claim 20, wherein the instructions when executed	
2	cause the con	troller to derive an E-model rating using the stored models.	
1	22.	(Canceled)	
1	23.	(Original) The article of claim 20, wherein the performance parameters are	
2	associated wi	th communications of packets through the communications system.	
1	24.	(Original) The article of claim 23, wherein the performance parameters	
2	include at lea	st one of a packet delay, packet loss, and packet jitter.	
	2.5		
1	25.	(Cancelled)	
1	26.	(Currently Amended) The article of claim 2520, wherein the performance	
2	parameter includes parameters include at least one of a packet delay, packet jitter, and		
3	packet loss.		
1	27.	(Currently Amended) A data signal embodied in a carrier wave and	
2	including one or more code segments containing instructions for predicting performance		
3	of a communications system, the instructions when executed causing a controller to:		
4		assign [[a]] performance parameters parameter to each of plural	
5	components i	n the communications system, the plural components including a packet-	

Appl. No. 09/557,451 Amdt. dated September 30, 2003 Reply to Office Action of July 2, 2003

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based network, the performance parameters comprising packet loss, packet jitter, and
 packet delay; and

derive a quality indication based on the <u>packet losses</u>, <u>packet jitters</u>, <u>and</u> <u>packet delays</u> <u>performance parameters</u> of the plural components.

28. (New) The method of claim 1, wherein combining the first performance parameters comprises combining packet delays of respective components to derive an overall packet delay, and wherein combining the second performance parameters comprises combining packet losses of respective components to derive an overall packet loss.

- 1 29. (New) The method of claim 28, wherein the performance parameters
  2 further comprise packet jitter, the method further comprising combining the packet jitters
  3 of respective components to derive an overall packet jitter,
- wherein deriving the quality indication is further based on the overall packet jitter.
- 1 30. (New) The method of claim 1, further comprising assigning an audio 2 CODEC type parameter to at least one of the components, 3 wherein deriving the quality indication is further based on the audio 4 CODEC type parameter.
- 1 31. (New) The method of claim 1, further comprising assigning at least one of 2 a signal loss parameter, echo parameter, and noise parameter to at least another one of the 3 components,
- wherein deriving the quality indication is further based on the at least one of the signal loss parameter, echo parameter, and noise parameter.
- 1 32. (New) The method of claim 1, wherein deriving the quality indication 2 comprises deriving a mean opinion score (MOS).

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- 1 33. (New) The method of claim 1, wherein deriving the quality indication 2 comprises deriving a value that is representative of a subjective perceived quality of 3 communications in the communications system by a user.
  - 34. (New) The apparatus of claim 10, wherein the value comprises at least one of an E-model quality rating value, mean opinion score (MOS), percentage of users that view a connection as good or better, percentage of users that view a connection as poor or worse, and percentage of connections that users may terminate early due to quality problems.
- 1 35. (New) The apparatus of claim 10, wherein the performance parameters
  2 comprise at least first and second performance parameters;
  3 the controller to combine the first performance parameters of respective

components to derive an overall first performance parameter, and the controller to combine the second performance parameters of respective components to derive an overall second performance parameter, the controller to calculate the predicted quality based at least on the overall first performance parameter and the overall second

- 8 performance parameter.
- 1 36. (New) The article of claim 20, wherein the quality level comprises a mean 2 opinion score (MOS).
- 1 37. (New) The data signal of claim 27, wherein deriving the quality indication 2 comprises deriving at least one of an E-model quality rating and a mean opinion score 3 (MOS).